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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/062,113

02/01/2002

Jeffrey J. Collins

435

9992

22474

7590

10/27/2005

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CHARLOTTE, NC 28211

EXAMINER

DAGOSTA, STEPHEN M

ART UNIT

PAPER NUMBER

2683

DATE MAILED: 10/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/062,113

Applicant(s)

COLLINS, JEFFREY J.

Examiner

Stephen M. D'Agosta

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,9-11,15,16,18,19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1,3,4,6,9-11,15,16,18,19 and 21-22 is/are allowed.
- 6) ☒ Claim(s) 23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 10-13-2005 have been fully considered but they are not persuasive.

1. Claims 23-24 still stand rejected since these claim amendments were not cited as being novel by the examiner. A new rejection is found below.

2. Claims 1, 3-4, 6, 9-11, 15-16, 18-19 and 21-22 are allowed. Claims 5, 7-8 and 14 were cancelled.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 23-24** rejected under 35 U.S.C. 103(a) as being unpatentable over Clupper et al. US 6,309,742 and further in view of Allen et al. US 6,410,847 and Webb US 6,542,371 and Eckblad et al. US 6,390,475.

As per **claims 23-24**, Clupper teaches a low EMI emission network device comprising:

A chassis having a door (C1, L23-39 teaches an enclosure, access panels, doors, lids and/or C2, L9-10 teaches a housing);

Electronic components disposed within said chassis, said electronic components comprising at least one integrated circuit running at a clock speed and emitting EMI in the range of 1-3 GHZ (C1, L10 to C2, L40 teaches use of PCB's/circuits that emit EMI and are disposed in a housing/chassis); and

A layer of foam having a high predetermined insertion loss in the range of

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1-10GHz disposed on at least an inner portion of said door (C3, L46 to C4, L17 which teaches a foam substrate with metal coating that can be attached to a device and is used a gasket/EMI shield, also see figure 8 for 1-3GHz range and C1, L34-40 teaches doors, access panels and/or lids of an enclosure/chassis which would be outfitted with EMI foam. Also note that Clupper discloses known EMI/RFI shielding gaskets with “....sufficient electrical conductivity.....to provide excellent EMI shielding in a frequency range from about 10MHz to about 26GHz, while being compatible with the use of lightweight plastic shields, snap features, and thin PCB's”. Hence the examiner interprets the disclosure as providing motivation for one skilled to dope the foam to increase Clupper’s EMI effectiveness up to the 10GHz range and beyond); and

Wherein said layer of foam is approximately .25 inches in thickness (Clupper teaches a foam thickness of 3mm which is interpreted as reading on “approximately .25 inches” (eg. the thickness is variable) and at least a portion of the EMI is absorbed by said layer of the foam and prevented from exiting the chassis (C1, L65 to C2, L40 teaches use of foam gasket/shielding to prevent EMI from exiting and/or interfering with network device(s))

**but is silent on running at clock speed of 1-10GHz range and substantially covering the inner surface of said door and wherein the foam is disposed directly on top of said heat sink.**

The examiner notes that Clupper discloses known EMI/RFI shielding gaskets with “....sufficient electrical conductivity.....to provide excellent EMI shielding in a frequency range from about 10MHz to about 26GHz, while being compatible with the use of lightweight plastic shields, snap features, and thin PCB's”. Hence the examiner interprets the disclosure as providing motivation for one skilled to dope the foam to increase Clupper’s EMI effectiveness up to the 10GHz range and beyond.

**Allen** teaches a packaged electronic system with an absorbing cover to reduce EMI (title, abstract, figures 2-3, C3, L4-24). Hence one skilled would either manufacture the cover to have these properties or at least use EMI shielding material to shroud the cover (eg. with a material as disclosed by Clupper).

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Both Webb and Eckblad teach EMI suppressive methods whereby material is placed "near" a heat sink, which reads on the foam being disposed on top of said heat sink. Specifically Webb teaches:

"...a heat sink is mechanically coupled to the heat producing component during operation. Typically, a flat surface of the heat sink will be held against a flat surface of the electrical component using some form of clamp or fastener. As can be appreciated, the surface of the heat sink and the surface of the component will rarely be perfectly planar or smooth, so air gaps will generally exist between the surfaces..." (C1, L44-51)

"...In yet another embodiment, carbon fiber threads are interlaced within a metallic lattice (formed from, for example, thin copper strands) to form the support structure of the pad. Such hybrid fabrics may also be used to provide shielding for electromagnetic interference (EMI) if the corresponding thermal pad is shaped to enclose the circuit package (e.g., an integrated circuit package). Preferably, the carbon fiber fabric will consist of 50% or more of carbon fiber by weight (although smaller ratios are also possible). As will be appreciated by a person of ordinary skill in the art, many alternative hybrid fabric combinations also exist..." (C5, L36-50).

Eckblad teaches (see figure 1):

"...wherein said gasket and said heat sink, in combination with a ground ring in said substrate surface, provide a barrier surrounding-said exposed die to eliminate electromagnetic interference emissions from said exposed die..." (C6, L17-22)

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Clupper, such that the layer of foam substantially covers the inner surface of the chassis and operates in the 1-10GHz range and foam on top of the heat sink, to provide maximum EMI protection against any leakage via the chassis and/or openings of said chassis and to provide EMI shielding for electrical components that operate over a wide range of frequencies.

***Allowable Subject Matter***

Claims 1, 3-4, 6, 9-11, 15-16, 18-19 and 21-22 are allowed

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta  
Primary Examiner

